Daniel Litt

Columbia University, Department of Mathematics
Office 716
MC 4406, 2990 Broadway
New York, NY 10027

Email: dlitt@math.columbia.edu
Website: www.daniellitt.com

Current position

2015- NSF Postdoctoral Fellow, Columbia University

Area of specialization

Algebraic Geometry, Number Theory

Education

2015 PhD in Mathematics, Stanford University
Thesis advisor: Ravi Vakil
Thesis title: Non-Abelian Lefschetz Hyperplane Theorems
2010 BA in Mathematics, Harvard University, Magna Cum Laude

Grants, honors & awards

2015-2018 NSF Mathematical Sciences Postdoctoral Research Fellowship, Columbia University
2013-2015 Achievement Rewards for College Scientists (ARCS) Fellowship
9-12/2014 Stanford-Princeton Exchange Scholar
2014,2016 US Junior Oberwolfach Fellow
2010-2013 NSF Graduate Research Fellowship

Articles & talks

Preprints

2017 Litt, Daniel, "Arithmetic Representations of Fundamental Groups I," (submitted, preprint available at: https://www.daniellitt.com/s/monodromy-r5rc.pdf).
2017 Litt, Daniel, "Vanishing for Frobenius Twists of Ample Vector Bundles," (submitted, preprint available at: https://daniel-litt.squarespace.com/s/Asymptotic-vanishing.pdf).

2016 Litt, Daniel, "Arithmetic Restrictions on Geometric Monodromy," (preprint available on the ArXiv: https://arxiv.org/abs/1607.05740).

Accepted Articles

2017 Lesieutre, John; Litt, Daniel, "Dynamical Mordell-Lang and Automorphisms of Blow-Ups," (accepted to *Algebraic Geometry, Foundation Compositio Mathematica*, preprint available on the ArXiv: https://arxiv.org/abs/1604.08216).

2017 Litt, Daniel, "Non-Abelian Lefschetz Hyperplane Theorems ," (accepted to Journal of Algebraic Geometry, preprint available on the ArXiv: http://arxiv.org/abs/1601.07914).

2016 Litt, Daniel, "Manifolds Containing an Ample $\mathbb{P}^1$-bundle," (Manuscripta Mathematica, preprint available: http://arxiv.org/abs/1602.00716).

2014 Litt, Daniel, "Zeta Functions of Curves With No Rational Points," Michigan Math Journal (preprint available: http://arxiv.org/abs/1405.7380).

2013 Litt, Daniel, "Symmetric Powers Do Not Stabilize," published August 15, 2014 in *Proceedings of the American Mathematical Society* (preprint available: http://arxiv.org/abs/1209.4708).

2010 Abel, Zachary; Kominers, Scott; Litt, Daniel, "A Categorical Construction of Ultrafilters," *Rocky Mountain J. Math.* Volume 40, Number 5, 1611-1617.

Invited Talks

2017 *Arithmetic Representations of Fundamental Groups*, University of Arizona Algebraic Geometry Seminar

2017 *Arithmetic Representations of Fundamental Groups*, OSU Algebraic Geometry Seminar

2017 *Schlesinger and Painlevé Equations in Positive Characteristic*, Stanford Algebraic Geometry Seminar

2017 *Arithmetic Representations of Fundamental Groups*, UC Davis Algebraic Geometry Seminar

2017 *Arithmetic Representations of Fundamental Groups*, UBC Algebraic Geometry Seminar

2017 *Arithmetic Representations of Fundamental Groups*, NYU Algebraic Geometry Seminar

2017 *Schlesinger and Painlevé Equations in Positive Characteristic*, UIC Algebraic Geometry Seminar

2017 *Integral Aspects of Fundamental Groups*, Conference on Étale and Motivic Homotopy Theory, Universität Heidelberg

2017 *Integral Aspects of Fundamental Groups*, BIRS Workshop on Nilpotent Fundamental Groups

2017 *Arithmetic Restrictions on Geometric Monodromy*, Harvard/MIT Algebraic Geometry Seminar

2017 *Arithmetic Restrictions on Geometric Monodromy*, Purdue Algebraic Geometry Seminar

2017 *Arithmetic Restrictions on Geometric Monodromy*, Yale Algebra and Number Theory Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, UIC Algebraic Geometry Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, UChicago Number Theory Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, Northwestern Number Theory Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, Wisconsin Algebraic Geometry Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, AIM Workshop: Rational Curves in Positive Characteristic

2016 *Arithmetic Restrictions on Geometric Monodromy*, Brown University Algebraic Geometry Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, Columbia Algebraic Geometry Seminar
2016 *Arithmetic Restrictions on Geometric Monodromy*, UPenn Algebraic Geometry Seminar
2016 *Arithmetic Restrictions on Geometric Monodromy*, Stanford Number Theory Seminar
2016 *Arithmetic Restrictions on Geometric Monodromy*, Topological Approaches to Algebra and Arithmetic Geometry, University of Georgia
2016 *Arithmetic Restrictions on Geometric Monodromy*, University of Georgia Number Theory Seminar
2016 *Arithmetic Restrictions on Geometric Monodromy*, Emory University Number Theory Seminar
2016 *Arithmetic Restrictions on Geometric Monodromy*, Oberwolfach Workshop on Arithmetic Geometry
2016 *Automorphisms of Blowups*, AMS Sectional Meeting, University of Utah
2016 *Non-Abelian Lefschetz Hyperplane Theorems*, Conference on Equivariant Algebraic Geometry and Algebraic Stacks, ANU Kioloa Campus, Australia
2016 *Automorphisms of Blowups*, ANU Canberra Algebraic Geometry Seminar
2016 *Automorphisms of Blowups*, Princeton Algebraic Geometry Seminar
2015 *Non-Abelian Lefschetz Hyperplane Theorems*, University of Utah Algebraic Geometry Seminar
2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Yale Algebraic Geometry Seminar
2015 *Hyperbolicity of Moduli Spaces and Arithmetic of Function Fields*, Columbia Number Theory Seminar
2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Stony Brook Algebraic Geometry Seminar
2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Courant Algebraic Geometry Seminar
2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Columbia University Algebraic Geometry Seminar
2015 *Geometric Lefschetz Hyperplane Theorems*, Bay Area Algebraic Number Theory and Arithmetic Geometry Day
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, University of Michigan Algebraic Geometry Seminar
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Harvard Algebraic Geometry Seminar
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, UIC Algebraic Geometry Seminar
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, AMS Section Meeting, SFSU, Special Session on Algebraic Geometry
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Oberwolfach *Classical Algebraic Geometry* Workshop, 5 minute talk
2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Berkeley Student Algebraic Geometry Seminar
2013 *Motivic Analytic Number Theory*, Graduate Workshop on Geometry of Hilbert Schemes, Simons Center for Geometry and Physics
2013 *Zeta Functions in Geometry and Topology*, Geometry and Topology: Berkeley and Stanford Icebreaker Conference
2013 *Motivic Analytic Number Theory*, GAeL XXI, KTH Royal Institute of Technology
2013 *Motivic Analytic Number Theory*, Columbia University Algebraic Geometry Seminar
2013 *Motivic Analytic Number Theory*, AMS Sectional Meetings, UC Boulder, Special Session on Algebraic Geometry
2012 *Motivic Analytic Number Theory*, UC Irvine Number Theory Seminar
2012 *Line Bundles on Plane Curves*, UC Berkeley Research Training Group (RTG) Workshop on Tensors and Their Geometry

2012 *The Cotangent Complex*, University of Michigan RTG Workshop on Derived Algebraic Geometry (expository)
2012 *Introduction to the Landscape of Generalized Euler Characteristics*, UC Berkeley Commutative Algebra and Algebraic Geometry Seminar
2012 *Introduction to the Landscape of Generalized Euler Characteristics*, Stanford Algebraic Geometry Seminar

Professional Service, Teaching & Seminars

Professional Service

2017 Arizona Winter School on perfectoid spaces, study group leader
2017- PhD Dissertation Committee Member (1 student)
2016- Oral Exams Committee Member (3 students)
2016-2017 Graduate Student Admissions Committee
2017 REU mentor, Columbia University: *Representation Theory in Graph Theory*, joint with David Hansen
2016- Undergraduate research mentor (2 students)
2016- Columbia Undergraduate Mathematics Society Speaker
2016 REU mentor, Columbia University: *Properties of Random Varieties*, joint with Daniel Halpern-Leistner
2013-2015 US Organizer, GAeL XXII & XXIII
2013- Referee for de Gruyter, Cambridge University Press, International Mathematics Research Notices, Journal of Pure and Applied Algebra, etc.
2012-2014 Stanford Math Circle: *The Music of the Spheres*, *The Fundamental Theorem of Algebra*, *Tiling Problems*
2012-2013 Stanford Undergraduate Research in Mathematics Mentor: *Zeroes of Linear Recurrences*, *Class Numbers of Imaginary Quadratic Number Fields*
2011-2013 Stanford SUMO Speaker Series: *The Music of the Spheres*, *Zeroes of Integer Linear Recurrences*, *Morse Theory, Stratifications, and Euler Characteristic*, *Tiling Problems*
2011-2013 Stanford SPLASH: *The Music of the Spheres*, *How Do We Know What We Know?*
2013 Stanford Undergraduate Mathematics Organization (SUMO) Math Tournament
2010 Boston Math Circle: *Ramsey Theory*,
2009 MIT SPLASH: *Ramsey Theory*

Seminars Organized

2016- Columbia Algebraic Geometry Seminar (joint with Michael Thaddeus (2016-2017), joint with Johan de Jong and Alex Perry (2017-2018))
2015 The Tate Conjecture (co-organized with Johan de Jong, Yiwei She, and Aanand Deopurkar);
2014 Applications of the Langlands Philosophy (Princeton, co-organized with Lucia Mocz);
2012-2013 Classics Reading in Algebraic Geometry;
2011-2013 Student/Special Algebraic Geometry Seminar;
2011-2012 Hodge Theory Learning Seminar;

2010-2011 Secret Cassels-Fröhlich Seminar

Teaching

2017 Topics in Algebraic Geometry: Deformation Theory, Columbia, Fall Semester
2016 Calculus III, Columbia, Fall Semester
2014 Math 51 (Linear Algebra and Multivariable Calculus) TA, Stanford, Winter Quarter
2013 Math 210C (Compact Lie Groups) Course Assistant, Stanford
2007 Course Assistant, Math 25, Harvard University